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- schizophylla*—Gr. split-leaved; referring to its forking habit.  
*scopulina*—Lat. of cliffs.  
*sensibilis*—Lat. sensitive; referring to the plant's susceptibility to injury by frost.  
*serratum*—Lat. toothed like a saw; referring to the margins of the leaf.  
*simplex*—Lat. simple.  
*simulata*—Lat. imitated; referring to the resemblance between the Massachusetts fern and certain forms of the lady fern.  
*spinulosa*—Lat. bearing small spines; referring to the spiny teeth.  
*Stelleri*—for Georg Wilhelm Steller, 1709–1746, a German naturalist in the Russian service.  
*Struthiopteris*—Gr. ostrich fern, a name perhaps given from a fancied resemblance of the fronds to feathers.  
*tenuifolium*—Lat. thin-leaved.  
*ternatum*—Lat. in threes; referring to the principal divisions of the frond.  
*Thelypteris*—Gr. female fern—the exact equivalent of the Latin *Filix-femina*, though used for an entirely different fern.  
*tomentosa*—Lat. covered with short, matted hairs.  
*Trichomanes*—Gr. Said to be an ancient name for some fern.  
*viride*—Lat. green; referring to the color of the midrib in contrast to that of related species.  
*vulgare*—Lat. well-known.
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### Recent Fern Literature.

The September number of the "*Nature Study Review*" is entitled "The Fern Number" on its cover which bears also a halftone of brake leaves, "a fern whose home is the world." The table of contents lists "Fern Study", "How to know the ferns," and a "List of common ferns" as the leading articles.

"Fern Study" gives in simple language something of the history, structure and reproductive processes of ferns. "How to know the ferns" describes in non-technical terms the fern families and species of our northern states. Both these articles are illustrated by numerous line cuts. The "List of common ferns" in-

cludes seventy-two species. These articles would appear to be admirably designed to serve the purpose for which they were intended, namely, to interest and inform teachers of nature study and elementary science. Beginners in fern study will find them helpful and interesting. The only point that might be commented upon as a lack was the absence of any mention of fern books for further information—such books, for instance, as Clute's "Our ferns in their haunts," Parson's "How to know the Ferns," Slosson's "How Ferns grow", and Waters's "Ferns."

Two separates from Carl Christensen were received in October, both issued in 1920.

"New species of Hymenophyllaceae from Madagascar" was published as Fascicule 12 in Notes Ptéridologiques of Prince Roland Bonaparte. Five new species of Trichomanes are described, together with related species of the African islands.

"A monograph of the genus *Dryopteris*, Part II; The tropical American bipinnate-decompound species." Mém. de l'Acad. Roy. des Sci. et des Let. de Danemark, Copenhagen; Sect. de Sci. Ser. 8; 6: 1-132; f. 1-29. 9 Je 1920.

Part one of Christensen's *Dryopteris* monograph, reviewed at the time of its appearance, 1913, dealt with the species of *Dryopteris* less than twice pinnate. In the present paper, all the remaining tropical American species are described, making a total of 347 species. Mention is made of the fact that 17 other species occur north of the tropics, a grand total of known forms of 364. Mr. Christensen estimates 500 as the probable number of American species with a probable equal number native in the Old World. When one pauses to consider a genus of one thousand species, of which less than a score are common in the United States, the difficulty of reaching well grounded conclusions from a

study of our native forms is obvious, and the importance of such monographic work as the present article is evident.

Eleven subgenera are differentiated, noted as probably good genera, but conservatively treated under *Dryopteris* pending further study of Old World forms.

R. C. B.

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Miss E. F. Andrews has given an interesting account of the resurrection fern (*Polypodium polypodioides*). This little species is the only fern having a wide range in the United States which is habitually an epiphyte. Throughout the southeastern states it is a common inhabitant of the trunks and branches of trees, often occurring, to the astonishment and pleasure of northern visitors, on shade trees in city streets. It is not very particular as to the species on which it grows. It seems, however, never to have been found on any conifer except the red cedar and it generally avoids trees with smooth or freely exfoliating bark which offer it only an insecure foothold.

Miss Andrews tested the effect of the scales with which the lower surface of the fronds is thickly covered, in preventing transpiration by removing all of them from part of the fronds of a given plant. When exposed to drought, the denuded fronds withered more quickly than the others and recovered more slowly when moisture was again supplied. She also tested the fern's capacity for "resurrection" by keeping a mat of it in her house wholly without water, and at intervals detaching portions of it and supplying them with moisture. Six months after the mat had been gathered, specimens fully revived in from 12 to 24 hours after being given water; after 14 months and six days of desiccation, one root still retained enough vitality to expand two fronds,

though, like a starving man given food too late, it did not long survive.<sup>1</sup>

Mrs. Elizabeth Wuist Brown recommends the use of nutrient solutions in growing fern prothallia for class use. She finds these solutions both time and trouble savers as compared with soil, peat and other media. Knop's and Prantl's, especially the latter, are the best. Formulae for various solutions and detailed directions for sowing the spores and caring for the cultures are given.<sup>2</sup>

Dr. Carl Skottsberg, assisted by Mrs. Skottsberg, has, in recent years, made extensive collections in the islands of Juan Fernandez (familiar to most of us as the reputed scene of the adventures of Robinson Crusoe and his man Friday) and in Easter Island. There has now been published under his editorship a work on the natural history of these regions. In the portions dealing with the pteridophytes Mr. Christensen has collaborated with him and this part of the work has been reprinted in pamphlet form.

The treatment is in the form of a copiously annotated list, giving full synonymy, descriptions where needed, localities on the islands, range elsewhere and critical notes. Line drawings by Mr. Christensen further elucidate the less known or more critical species and there are five beautiful photogravure plates of ferns *in situ*.

From the Juan Fernandez group 49 species of true ferns and two Lycopodiums are recorded. Of these four are described as new and nine are recorded from the islands for the first time. As might be expected in an ancient insular flora, the number of endemic species—

<sup>1</sup>Andrews, E. F. Habits and habitats of the North American resurrection fern. *Torreyana* 20: 91-96, fig. 1. Sept.-Oct., 1920.

<sup>2</sup>Brown, Elizabeth Dorothy Wuist, The value of nutrient solutions as culture media for fern prothallia. *Torreyana* 20: 76-83, figs. 1, 2. July-August, 1920.

17—is proportionately large, just one third of the whole, and nearly as many more are known elsewhere only from Chile. Easter Island, smaller and farther out in the Pacific, can boast of but twelve species, five of them here recorded for the first time. Most of them are species of wide distribution in the tropics or at least on the islands and continental shores of the south Pacific, but two (one of them described as new) are endemic and one is known elsewhere only from Tahiti.<sup>3</sup>

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### American Fern Society

Partly, at least, because of the delay in issuing the last number of the JOURNAL and consequently in getting in the bills for 1920, not all of the officers' reports were ready at the time of going to press. It has been thought best to issue this number without waiting for them, thereby getting the JOURNAL back to schedule time, or near it, and to print all the reports together in the next number.

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Susan Hubbell Bancroft (Mrs. Edward H.), of New York City, a member of the American Fern Society since 1916, died on February 11, 1920.

Mrs. Bancroft took up the scientific study of ferns after she was sixty years of age and continued it almost to the time of her death at nearly eighty. Her special love for ferns had been a life-long passion; and while never claiming to be more than an amateur, in these later years she made herself an authority on the ferns of the locality of her summer home, Greensboro, Vermont, and was the inspiring influence that started many others of the summer colony there in similar study.

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<sup>3</sup>Christensen, Carl and Skottsberg, Carl. The Pteridophytes of the Juan Fernandez Islands. pp. 1-46, figs. 1-7, pls. 1-5. The Ferns of Easter Island. pp. 47-53, figs. 1-3. Upsala, 1920.